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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/394,428	09/13/1999	CHARILAOS CHRISTOPOULOS	2466-35	4221

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EXAMINER  
SENFU, BEHROOZ M

ART UNIT 2621  
PAPER NUMBER

DATE MAILED: 05/30/2006

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/394,428  
Filing Date: September 13, 1999  
Appellant(s): CHRISTOPOULOS ET AL.

\_\_\_\_\_  
John R. Lastova

For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed May 07, 2003.

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***Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

Appellant's brief includes a statement that claims 1, 4, 9, 10, 12, 15, 17, 18, 20 and 21 either stand or fall together and claims 11, 14, 16 and 19 either stand or fall together and claims 23 and 24 either stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

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**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

5,107,345	LEE	5-1991
5,870,146	ZHU	1-1997

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 4, 10 – 12, 14 – 16 and 18 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 5,107,345). This rejection is set forth in prior Office Action, Paper No. 9, and dated 10-29-2002.

Claims 9, 22, 23, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 5,107,345) in view of Zhu (US 5,870,146). This rejection is set forth in prior Office Action, Paper No. 9, and dated 10-29-2002.

**(11) Response to Argument**

Appellant alleges (Brief, pages 7-8) that Lee does not teach calculating DCT of length  $N/2$ ,  $N$  being positive integer, to produce two sequence of coefficients of length  $N/2$ , of an original sequence of values of length  $N$ . Examiner respectfully disagrees.

With reference to the language of claim 1, Lee teaches dividing the block into sub-block and performing DCT (calculating) by properly choosing the block size based on image characteristics, which are being dictated by the process, and reconstructed back to the original block of  $N$  (see figure 6, which shows division of blocks and

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reconstruction of blocks of different sizes. For example, a 16x16 size block,  $N=16$ , is divided and/or reconstructed into up to four  $N/2$  i.e. 8x8, or sixteen  $N/4$  i.e. 4x4 DCT blocks or combination thereof. The division/reconstruction are based on image characteristics).

Appellant argues that Lee is "happy with a 16x16 blocks". Appellant's statement is not true in all cases. For example, Lee (fig. 6) divides the  $N \times N: N=16$  block and chooses different size block(s) other than 16x16 blocks depending on image characteristics. In some cases, Lee uses two  $N/2 \times N/2$  blocks, and other times, uses sixteen  $N/4 \times N/4$  blocks. Note the  $N/2$  blocks supplies  $\frac{1}{2}$  of the data required for  $N/N$  (16x16) transform. Therefore, contrary to appellant's argument, not all size blocks are 16x16. Using 16x16 size blocks is one possibility among many possibilities.

With respect to claims 2 and 11, appellant argues (Brief, page 9, lines 23 – 27) that Lee does not teach "calculating DCT of length  $N \times N$  from four sequences of coefficients of length  $N/2 \times N/2$  as claimed. Examiner respectfully disagrees.

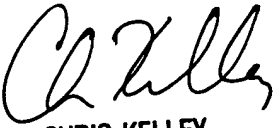
In the previous Office Action (Paper No. 5, Feb. 13, 2002), it was stated that "Lee does not explicitly teach calculating DCT of length  $N \times N$  directly from four sequences of  $N/2 \times N/2$  coefficients". However, upon further review of the Lee patent (i.e. fig. 6 and col. 7, lines 30 – 43), Lee does indeed meets the limitation as claimed.


With respect to claims 22-23, appellant argues (Brief, pages 9 – 10) that Lee does not teach "extracted coefficients for four adjacent blocks of size  $N/2 \times N/2$ ". Examiner notes that in Lee, dividing  $N \times N$  block into four  $N/2 \times N/2$  blocks and performing DCT transformation on the sub-blocks are inherently the process of "extracting" the

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respective coefficients to form the block as claimed. As for non-overlapping blocks of size NxN as claimed, Lee teaches this aspect (see col. 4, lines 8 – 10).

With respect to claim 25, appellant argues (Brief, page 11) that Lee fails to teach “multi-node control unit”. In the previous Office Action (Paper No. 9), Examiner acknowledged Lee fails to teach the limitation “multi-node control unit”, but relied on Zhu ‘146 to state the obviousness. Ample motivation for the combined teaching was given in that Office Action.

  
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Respectfully submitted,

Examiner  
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Art Unit 2613

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